

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for power-saving in a wireless local area network including a point coordinator and plural stations, each having an active state and a power-saving state, and transmitting and receiving data through a radio medium directly to and from the point coordinator, the method comprising:

a beacon transmitting step in which the point coordinator periodically transmits a beacon frame ~~with~~ embedding a schedule information field such that the beacon frame is compatible with the 802.11 standard without transmitting a schedule information frame following the beacon frame, ~~which~~ the schedule information field including ~~includes~~ plural sets of an association identification sub-field and a time slot information sub-field, the association identification sub-field indicating that there is duration for a corresponding station to receive/transmit data and the time slot information sub-field specifying the time that the corresponding station is in the active state for receiving/transmitting data;

a beacon receiving step in which each station periodically enters its active state to receive the beacon frame; and

a wake-up step in which a specific station enters its active state to receive/transmit data in the time specified by the time

slot information in the beacon frame when there is duration for the specific station to receive/transmit the data.

2. (original) The method as claimed in claim 1, wherein in the beacon receiving step, each station enters its power-saving state after receiving the beacon frame.

3. (original) The method as claimed in claim 1, wherein in the wake-up step, each station stays in its power-saving state if there is no corresponding association identification in the schedule information.

4. (original) The method as claimed in claim 1, wherein further comprises:

a re-entering sleep mode step in which each specific station re-enters its power-saving state after the data transmission.

5. (original) The method as claimed in claim 1, wherein in the beacon transmitting step, the time slot information is a time stamp.

6. (original) The method as claimed in claim 1, wherein in the beacon transmitting step, the time slot information is a time offset.

7. (original) The method as claimed in claim 1, wherein in the beacon transmitting step, the schedule information is scheduled according to a schedule algorithm for meeting QoS requirements.

8.-22. (canceled)

23. (currently amended) A system for power-saving in a wireless local area network, comprising:

plural stations, each having an active state and a

power-saving state, transmitting and receiving data through the radio media directly to and from a point coordinator, and periodically entering its active state to receive a beacon frame; and

the point coordinator which periodically transmits the beacon frame ~~with~~ embedding a schedule information field such that the beacon frame is compatible with the 802.11 standard without transmitting a schedule information frame following the beacon frame, ~~which including~~ the schedule information field including plural sets of an association identification sub-field and a time slot information sub-field, the association identification sub-field indicating that there is duration for a corresponding station to receive/transmit data, the time slot information sub-field specifying the time that the corresponding station is in the active state for receiving/transmitting data;

wherein a specific station enters its active state to receive/transmit data in the time specified by the time slot information in the beacon frame when there is duration for the specific station to receive/transmit the data.

24. (original) The system as claimed in claim 23, wherein each station enters its power-saving state after receiving the beacon frame.

25. (original) The system as claimed in claim 23, wherein each station stays in its power-saving state if there is no corresponding association identification in the schedule information.

26. (original) The system as claimed in claim 23, wherein

each specific station re-enters its power-saving state after the data transmission.

27. (original) The system as claimed in claim 23, wherein the time slot information is a time stamp.

28. (original) The system as claimed in claim 23, wherein the time slot information is a time offset.

29. (original) The system as claimed in claim 23, wherein the schedule information is scheduled according to a schedule algorithm for meeting QoS requirements.

30.-44. (Cancelled)